IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor:	Michael W. Price, et al.	Attorney Docket No.	SP02-174
Serial No:	10/629,397	Examiner:	Ngoc Yen M. Nguyen
Filing Date:	July 29, 2003	Group Art Unit:	1754
Title:	Scatter-Free UV Optical Fluoride Crystal Elements for < 200NM Laser Lithography and Methods		

NOTICE OF APPEAL

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby appeal(s) to the Board of Appeals from the Office Action dated November 17, 2005 from the Primary Examiner finally rejecting claims 1 – 19.

Corning Incorporated hereby authorizes to charge deposit account 03-3325 in the amount of $500.

If there are any other fees due in connection with the filing of this Notice of Appeal, please charge the fees to our Deposit Account No. 03-3325. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

17 January 2006
Date

Respectfully submitted,
CORNING INCORPORATED

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CERTIFICATE OF TRANSMISSION

UNDER 37 C.F.R. § 1.8

I hereby certify that this paper and any papers referred to herein are being transmitted by facsimile to the U.S. Patent and Trademark Office at 703-872-9306 on:

17 January 2006
Date

Walter M. Douglas — 17 Jan 2006
Walter M. Douglas — Date

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calcium chloride considerable scatter was produced. The scatter could be suppressed by adding 100 parts per million of lead fluoride. In this case the chlorine could leave the melt possibly by the reaction

$$CaCl_2 + PbF_2 = CaF_2 + PbCl_2\uparrow$$

We have obtained a correlation between the chlorine content of synthetic calcium fluoride and the scatter in crystals grown from this material. Chlorine has been identified as an impurity in calcium tungstate crystals which also causes scatter (Cockayne 1965).

From these facts it will be seen that scatter can result from oxygen, chlorine and sulphur when present in concentrations which exceed the limit of solid solubility. When the crystal cools down the excess is precipitated as a second phase. The absence of scattering centres near to surface, grain boundaries and tilt boundaries suggests that the form of the precipitates is dependent on the vacancy concentration in the crystal. (Phillips and Hanlon 1963).

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G. W. Green
21st April 1965

References

Cockayne, B., 1964, *Solid State Commun.*, 2, 381–2.
Cockayne, B., Robertson, D. S., and Bardsley, W., 1964, *Brit. J. Appl. Phys.*, 15, 1165–9.
Forrester, P. A., Green, G. W., and Sampson, D. F., 1965, to be published.
Kaiser, W., and Keck, M. J., 1962, *J. Appl. Phys.*, 33, 762–4.
Phillips, W. L., Jr., and Hanlon, J. E., 1963, *J. Amer. Ceram. Soc.*, 49, 447–9.
Stepanov, I. V., and Feofilov, P. P., 1956, *Growth of Crystals* (In English translation, Consultants Bureau Inc., New York, 1958).
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CORRIGENDA

The relationship between space-charge-limited current and total emission of diodes, by P. W. Coutts and R. K. Fitch (*Brit. J. Appl. Phys.*, 1964, 15, 1327).

The temperature ranges given for the various points on the figure of this paper are incorrect. They should be as follows:

■ 1105–1120°K, ● 1090–1105°K, + 1075–1090°K.

The paper was written on the assumption that the points were indicated correctly and this error in no way affects the arguments presented.

Induced conduction in dielectric liquids, by I. Adamczewski (*Brit. J. Appl. Phys.*, 1965, 16, 759).

Page 763, line 8: equation should read $\log \mu_+ = A_1 - \frac{2}{3}\log \eta$.
line 23: range should be 100–1500 Å.

Page 766, 2 lines from bottom: range should be $(7{\cdot}2 - 12) \times 10^{-19}$ cm³ per ion sec.

Page 767, line 12: equation should read

$$\tfrac{2}{3} F_1 = -0{\cdot}174\, nkT + 0{\cdot}0139\,(5{\cdot}05 + n).$$

References

Adamczewski, 1937b: Journal should be *Ann. Phys., Paris.*

Davis *et al.*, 1962a: Pages 947 and 2470.